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AQFOOD INTERNATIONAL MASTER PROGRAMME: SHARING KNOWLEDGE AND EXPERIENCE WITH DISTANCE TEACHING & LEARNING

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Introduction

"Aquatic Food Production-Safety and Quality" (AQFood) is an international master education linking aquatic food production, processing and distribution with issues of importance for tomorrow's consumers, industry and society. The programme is based on natural sciences and engineering and a collaboration between five Universities in the Nordic countries. The general objective of the master programme is to deliver a unique education in aquatic food production and processing in order to support a continuous and prosperous growth of Nordic fisheries, aquaculture and fish processing industries aiming at delivering safe and high quality products.
The main difference between this program and other existing master programs is the value chain approach where education in aquaculture production and fisheries is combined with industrial processing and final product. Thus the students will gain an understanding that the initial steps in production, and handling in processing, storage and through transport will influence the final quality of the products.
The AQFood Master combines expertise from Norway and Iceland, which are the main producers of aquatic food in the Nordic countries, with Denmark and Sweden, which have well established aquatic food processing industries. The different Nordic countries involved are leaders in their respective area in the academic world and have different and complementary expertise in the different themes. Combining the expertise of the different countries in their respective areas of excellence will be pivotal in educating people that will be able to address the challenges of producing nutritious, safe and healthy aquatic food for the global market in an economically and environmentally sustainable way.
The study programme was launched in the fall 2012 and based on the experience gained we would like to demonstrate that by combining expertise at the international level a unique master programme was developed with the help of distance learning. E-learning was used as a tool to address the challenge of exchanging teaching material but also as a tool to address our audience. We will reflect on the pedagogical aspects of distant learning and address how it can be used to enhance the student learning. At the same time the blind spot in e-learning will be discussed to highlight the best e-learning teaching practice in the aquatic food sector to reach the future generation but also to disseminate our unique Nordic “know how” at the global scale.

Results

The first semester in AQFood was designed to be based on e-learning in order to be able to combine the expertise of the 5 participating universities with some of the best teachers in their fields. The following four courses of 7.5 ECTS each were delivered exclusively using e-learning.

- Primary production, Aquaculture and Fisheries – UMB
- Aquatic Food Processing and Technology – NTNU

- Safety and Human Health Effects of Aquatic Food – DTU
- Aquatic Food Supply Chain Management, Environment and Resources – UoI

The course material was presented using Adobe Connect where teachers recorded their lectures and delivered them to the students as a link along with the slides sometimes via e-mail but all course material was placed on a common web based platform (Fronter). To motivate the student participation, on-line sessions of questions/answers, oral presentations as well as exercises were web based using Adobe Connect.

The experience of using e-learning and a common platform can be summarized as follows:

- It was possible to establish courses across countries using web-based technologies and combine expertise of several teachers in unique courses
- On the teachers' side investment in technology and in time was essential in the initial phase
- Advantage for the teachers is that they can at any time look into the platform and get updated of what has been lectured in the other courses in the common first semester. Cooperation between the four core courses is in this way also enhanced
- On the student side the web-based experience was well received giving flexibility, however, the technological side needed to be in place i.e. good internet connection, webcam, speakers etc.
- Students in different schools used one platform (Fronter), and did not necessarily need to adapt to other local platform tools in the universities
- A virtual classroom was created via Adobe Connect and the students experienced a class feeling, even if they are located on different campuses
- The Q/A sessions served mainly to give guidelines to students on assignments but students were reluctant to pose questions on the course material
- Students presented their projects and group work in web based meetings and this was a successful way to motivate the interaction of students and teachers
- Local support is essential to assist students in group work and local industry collaboration and to provide facilities for on-line meetings for student's presentations and final exam
- The students organized themselves in Facebook groups to discuss the courses without participation of the teacher

Conclusions

The e-learning approach and the web-based technology applied was successful to deliver the teaching material to students. This was well received but will need further adjustments to be a fully successful experience from both the teachers and the students' perspective. Some adjustments will be necessary to align the content of the courses and exercises to ensure communication between students and teachers. The necessity to have a common platform accessible to all universities was a challenge since this requires additional work for teachers where the local platform is not Fronter. Some improvement in the software (Adobe Connect) is necessary to be, able to monitor the student learning and attendance and more commitment on the teacher´s side is needed to fully benefit from the Fronter platform for on-line assignments and to follow the student progress. Interaction between the students and the teachers was not always optimal in social media but will be necessary in the future to address the new generation. At the same time it can be foreseen that such way of disseminating and communicating knowledge could be used to address gaps in the industry in order to keep them up to date with the latest scientific knowledge and enhance their competitiveness.

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